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SAFEGUARDING YOUR FOOD AND DRUG SUPPLIES -- No. 29.

A radio talk by Mr. W. R. M. Wharton, chief of the eastern district, Food and Drug Administration, Department of Agriculture, delivered Monday, November 17, 1930 through Station WJZ and associated National Broadcasting Company stations.

Good morning my radio friends. By this time, you probably know your Government representative who tells you each week how your foods and drugs are safeguarded by means of the enforcement of the Federal food and drug act, and who tells you how to read food and drug labels in order that you may become intelligent, discriminating, and careful buyers.

Some time ago, when a party of Federal food and drug inspectors were making regular tests of market milk which had been shipped in interstate commerce, they found that shipments from a certain locality had been skimmed before shipment. The shippers of this milk were summoned to a hearing and they denied absolutely that they had skimmed the milk before shipping it. They could offer no explanation of the Government's findings, but insisted that they had not removed cream from the milk before shipment. The farmers in question appeared to be so sincere in protesting their innocence that, before undertaking further action, it was decided to investigate to determine whether anything had happened to the milk after it was delivered for shipment. Your inspector, on a certain day, having proceeded to the point of shipment, watched the men loading the cans of milk into the baggage car. He then boarded the baggage car and rode with the milk to its interstate destination. This particular train was scheduled to arrive at its destination early in the afternoon.

Along about noon-time, when we begin to think of lunch, a member of the train crew, equipped with a long-handled dipper and several tin cups, came into the baggage car. When he saw your Government inspector, apparently he had a sudden change of mind, for he turned around quickly and went back whence he came. Your inspector was sure now that the train crew was robbing the milk cans. But he did not have positive evidence. On the next day, the same inspector boarded this same train at the milk shipping point as a regular passenger and seated himself in the front seat next to the baggage car. When noon came, he saw the same individual pass into the milk car with his dipper and tin cups. Your inspector sat still, giving the trainman time to begin his pilfering operations, and then stepped forward to the door of the milk car, which was carefully opened so that observations could be made through it. There were three men in there - all of the train crew. One was dipping the cream from the top of the milk cans into his tin cups. Another was drinking cream from a milk can lid. The third was returning an unconsumed portion of cream from the can lid back into the can. Here was the explanation of the shortage of butter fat which your inspectors had found in these shipments and here was a very reprehensible practice from a sanitary standpoint. Such a practice could contaminate the entire can of milk because the drinker poured an unconsumed portion back into the can.

But for this evidence, the shipper of the product might have been done an injustice as he might have been prosecuted for violating the food and drugs act. The question now was how to put a stop to this reprehensible practice. Your inspector went to the general superintendent of the railroad. He presented the evidence which had been secured, and asked the general superintendent to cooperate in breaking up this practice. The general superintendent of the railroad listened attentively. He immediately took appropriate steps to prevent subsequent occurrences of the same kind. He issued a bulletin to his train crew, which read as follows: "We are in receipt of advice from the Department of Agriculture to the effect that train employees are opening cans of milk and cream, while in their charge, for the purpose of drinking from them and are permitting other parties to do likewise. Not only is this a plain violation of the company's rules, but a violation of the Act of Congress of February 13, 1913, in connection with tampering with interstate shipments, and is punishable by a fine of not more than \$5,000, or imprisonment of not more than ten years, or both. Train employees and train baggagemen will be held strictly accountable for the safe and proper handling of all shipments in their care. Be governed accordingly." This step put an effective and permanent stop to this practice which resulted in an adulterated product reaching consumers, and which was reprehensible from the standpoint of being insanitary. It is, my friends, by action such as this, that your food and drug officials protect your food and drug supply.

My read-the-label talk today will be about cream and other milk products. Last week I told you how to read labels on milk and I told you that the most important information to look for on milk labels is the grade and to know for what each grade stands. I repeat the statement with regard to cream: The most important statement to look for on a cream label is the designation of grade. Pasteurization -- a process of heating to 142-145 degrees Fahrenheit, for thirty minutes, and then cooling to 50 degrees immediately -- destroys the organisms which may be the means of carrying disease. Hence you will see how important it is to insist upon either pasteurized cream or cream fully certified as to its wholesomeness when you buy cream, and to check your purchase by reading labels. When the product is pasteurized it will be so labeled. Besides pasteurization, carefully controlled methods of production make cream safe, and cream produced under such conditions is often sold under grade designations which give you information as to relative sanitary quality of the product. The requirements for the various grades and the designations used to differentiate them vary in different localities. For specific information as to the definitions and grades of cream in your locality, apply to your local or State Board of Health. New York City, for example defines three grades of cream, namely, Certified Cream, Grade A Pasteurized Cream, and Grade B Pasteurized Cream.

CERTIFIED CREAM must be produced and handled under strict sanitary conditions -- must come from tuberculin-tested and healthy cows and handled by healthy milk attendants -- and must not contain more than 150,000 bacteria per cubic centimeter and must be handled under control and certification of

a Medical Milk Commission, approved by the Department of Health and appointed by a County Medical Society organized under and chartered by the Medical Society of the State. The labels on bottles of Grade A Certified Cream give the grade designation, name and address of the dealer, place of production and date of shipment.

GRADE A PASTEURIZED CREAM must be produced, handled, and pasteurized under strict sanitary conditions and must come from healthy cows, but not necessarily from tuberculin-tested cows. Grade A Pasteurized Cream shall not at any time after pasteurization contain more than 150,000 bacteria per cubic centimeter, but must be produced from milk, which, when raw, contains not more than 200,000 bacteria per cubic centimeter before pasteurization, if the pasteurization occurs in New York City. It must not have more than 100,000 bacteria per cubic centimeter, if the pasteurization occurs outside of the City of New York. This cream must be delivered to the consumer within 36 hours after pasteurization.

Grade A Pasteurized Cream is labeled Grade A Pasteurized Cream, with the date and hours between which pasteurization was completed, and the place where pasteurization was performed, and with the name and address of the dealer.

Grade B Pasteurized Cream must be produced, handled, and pasteurized under satisfactory sanitary conditions by healthy employees and must be derived from healthy cows, but not necessarily tuberculin-tested cows. It must be produced from milk which contains no more than 750,000 bacteria per cubic centimeter, if pasteurized in New York, or 300,000 bacteria per cubic centimeter if pasteurized outside of the city of New York. Such cream must not at any time after pasteurization contain more than 500,000 bacteria per cubic centimeter. Grade B cream is required to be delivered to the consumer within ninety-six hours after pasteurization and it is required to be labeled "Grade B Pasteurized Cream" with the name and address of the dealer and date and place where bottled.

Now, my friends, I have been talking to you about sanitary quality of cream. Next let us consider the product from the standpoint of its difference in physical quality. When you buy cream do you specify only light cream, or route cream, or do you insist upon knowing the percentage of butter fat in the product? Perhaps you may ask for double cream or whipping cream. Why not know definitely the percentage of butter fat? Such terms as light cream, route cream, table cream, coffee cream, pastry cream, and whipping cream are very indefinite. Federal standards require ordinary table cream to contain at least 18% of milk fat, and whipping cream to contain not less than 30% milk fat. Many local ordinances make specific requirements which are generally somewhere near the following: Light cream at least 18% butter fat. Medium cream at least 23% butter fat. Extra heavy cream at least 36% butter fat. Special extra heavy cream at least 45% butter fat. Knowing these facts, you may inquire of your dealer or milk man for information as to the butter fat content of the cream he

delivers and then you may by simple calculation, determine which class is the better buy at the price named.

Now, for evaporated and condensed milk. Do you know the difference between evaporated and condensed milk? Evaporated milk is whole milk from which a part of the water has been removed by evaporation, and the finished product contains not less than 7.8% of milk fat and not less than $25\frac{1}{2}\%$ of total milk solids. Nothing is added to the product and nothing is taken away but water. Since ordinary milk contains about 12% of total solids, on the average, you will see that evaporated milk represents just slightly over two times its volume of raw milk. In other words, a 16-ounce can of evaporated milk represents just slightly more than one quart of raw milk.

Condensed milk or sweetened condensed milk is a milk product, the bulk of which is reduced by evaporation and to which sugar is added. The product must contain not less than 28% of total milk solids, of which there must be at least 8% of milk fat. You see, notwithstanding the sugar content, the sweetened condensed product contains slightly more milk constituents than evaporated milk. The sugar content usually runs about 40%. The remainder of 60% must contain sufficient milk solids to give, in the finished product, the figures indicated above.

Labels will tell you whether the products are evaporated milk or sweetened condensed milk. And, since skimmed milk as well as whole milk, is put up in these forms, watch the labels to determine whether you are getting a skimmed milk product, for labels on products made from skimmed milk will state this fact plainly.

Dry Milk: We are now making considerable use of a product known as dry milk. This is milk which has been evaporated down to almost complete dryness. It cannot contain more than 5% of moisture, and it must contain at least 26% of milk fat. Here we have a product, the volume of which is represented as raw milk by more than $7\frac{1}{2}$ times its own volume. In other words, one pound of dried milk would be represented by nearly two gallons of fluid milk. Skimmed, dried milk as well as whole dried milk is sold. Consequently, watch your labels to be sure that you are getting what you wish, as skimmed, dried milk contains little or no butter fat but is composed largely of the milk solids other than fat.

Malted Milk: Malted Milk is made by combining whole milk with the liquid separated from a mash of ground barley malt and wheat flour, with or without the addition of salt and soda in such a manner as to secure the full enzymic action of the malt extract. The product is then dried. It must contain not more than $3\frac{1}{2}\%$ of moisture and not less than $7\frac{1}{2}\%$ of butter fat.

Buttermilk: Buttermilk is the product that remains when the fat is removed from milk or cream, either sweet or sour, in the process of making butter. This product contains not less than 8.5% of milk solids, not fat. It contains little or no butter fat.

Cultured buttermilk is the product obtained by souring pasteurized skimmed, or partially skimmed milk by means of a suitable culture of lactic bacteria. This product contains not less than 8 $\frac{1}{2}$ % of solids, not fat. There is no standard for the butter fat content of the product, it may contain varying amounts of butter fat. Cultured milks are sold under various names, such as Melk-lac, and the like. There are other products which fall in the cultured milk class, such as Acidophilus milk. This is a product used for dietary purposes, generally under a doctor's advice, and a great deal has recently been written on the subject of its alleged beneficial dietary effect. If you are interested in this product, ask your doctor about it or consult the literature in your library.

Let me urge you, then, with all the force of my influence, to read labels, to read labels intelligently in order that you may become careful, economical, and intelligent buyers of food and drug products. In previous talks I have discussed a large number of food products and I have told you how to read their labels. I have talked on tea, baking powders, butter, eggs, cheese, and a great many other products. I have told you about vitamins, food elements essential in the diet. I have talked on Botulism, - a form of deadly food poisoning, and have told you how to safeguard against it. Copies of all these talks are available to you for the asking. Write to - W. R. M. Wharton, United States Department of Agriculture, 201 Varick Street, New York City.

I will be with you again next week at this same hour. I thank you!
